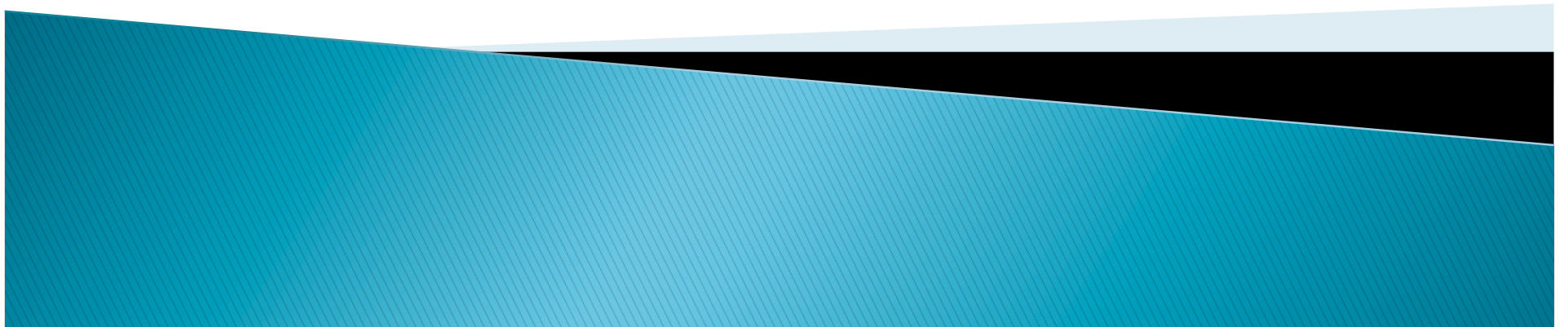


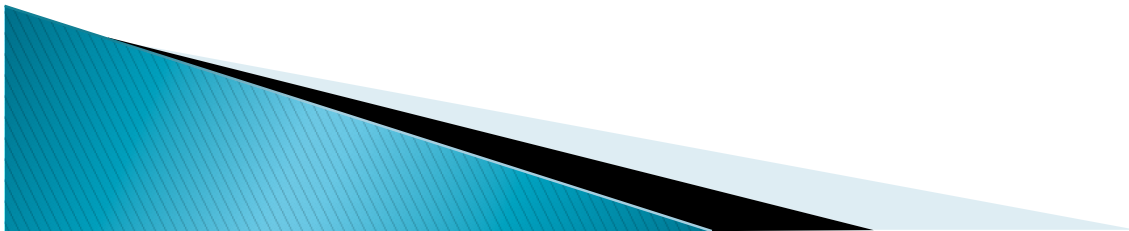
# Test Review Learning Set 5

8<sup>th</sup> Grade Science



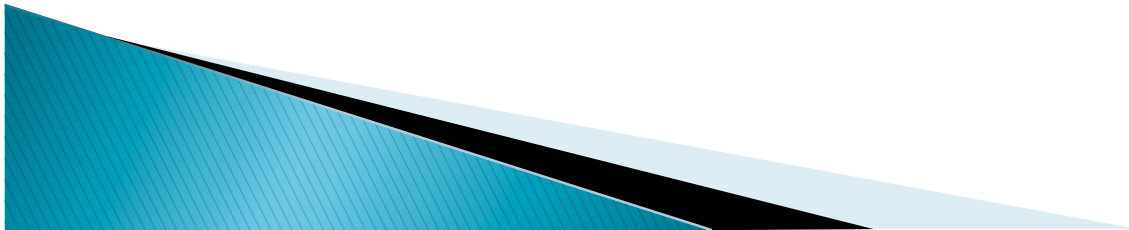
# Catalysts

- ▶ Substance that increases the rate of chemical reaction by lowering the amount of energy needed for the reaction.



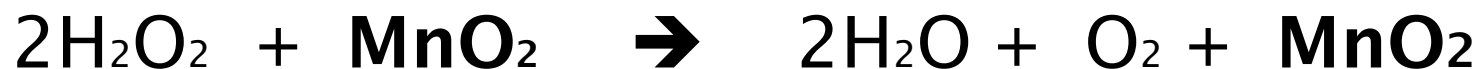
## 2. Examples of catalysts found in Catalytic Converters

- ▶ Platinum
- ▶ Palladium
- ▶ Rhodium



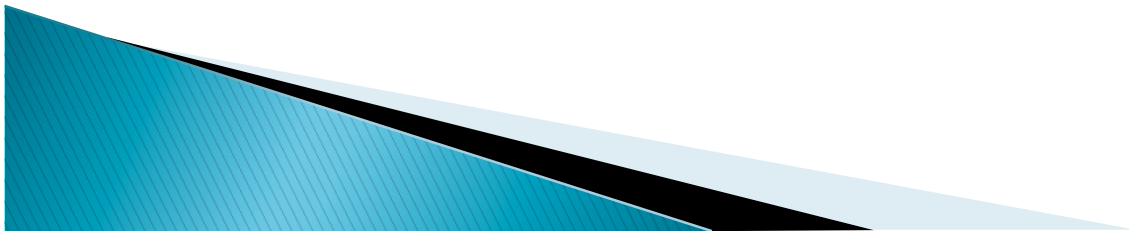
**3. When a catalyst is used in a chemical reaction the amount of the catalyst at the start is the same as at the end?**

- ▶ True
- ▶ Catalyst are the same before and after the reaction.



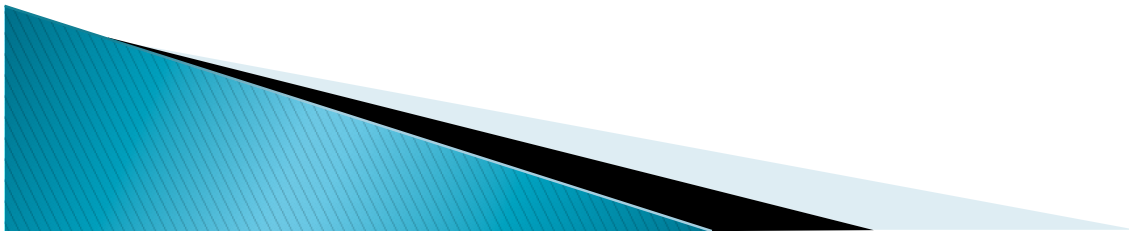
## 4. How do power plants control pollution?

- ▶ The scrubber sprays pollutants, such as, sulfur dioxides with water (acidic) and with a lime (base) which then dissolves/neutralizes creating a solid precipitate. The solid particles are removed and disposed of.



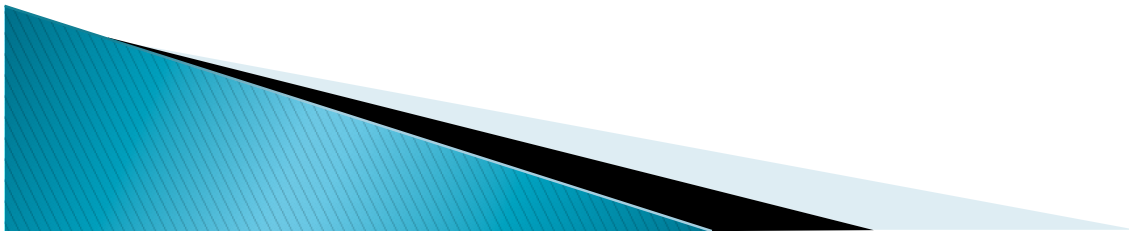
## 5. Why was Manganese Dioxide added to Hydrogen Peroxide?

- ▶ to **speed up** the chemical reaction.
- ▶ Lower Activation Energy



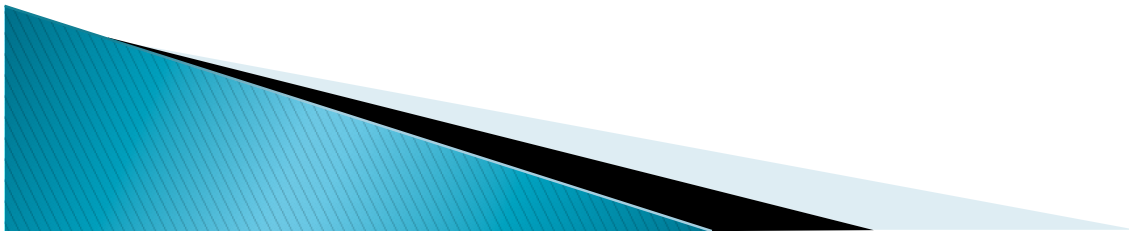
## 6. Fill out the chart with a minimum of 3 examples of each.

Renewable	Nonrenewable
Nuclear Energy	Natural Gas
Hydropower Energy	Oil
Solar power Energy	coal



## 8. Renewable Vs Nonrenewable

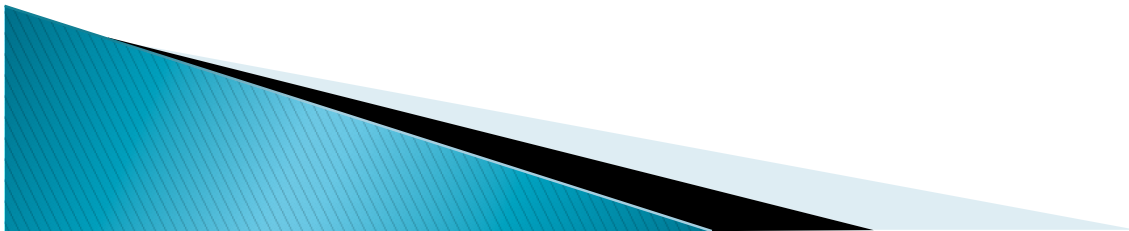
- ▶ Renewable resources can not be used up or they can be replaced by new growth.
- ▶ Nonrenewable resources that are not replaceable after it has been used up.





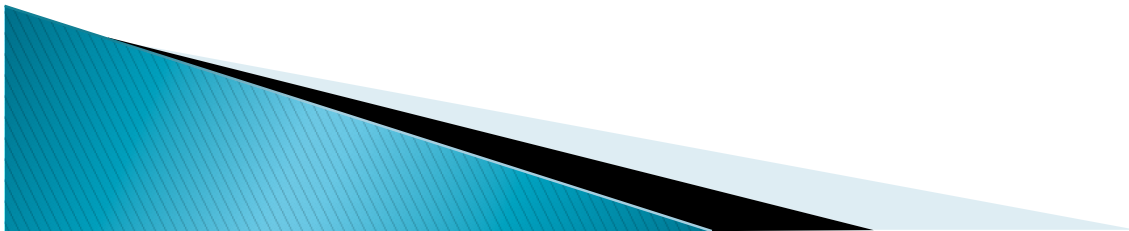
## 8. List the two major ways of reducing air pollution?

- ▶ Stop pollutants from entering the air by using filters.
- ▶ Stop pollutants from forming by using chemical reactions.



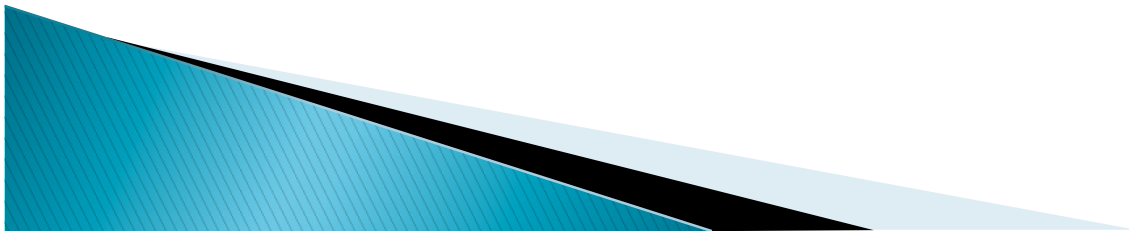
## 9. Biofuel

- ▶ Fuel made from biomass materials that were once living.



# Biofuel and Not Biofuel

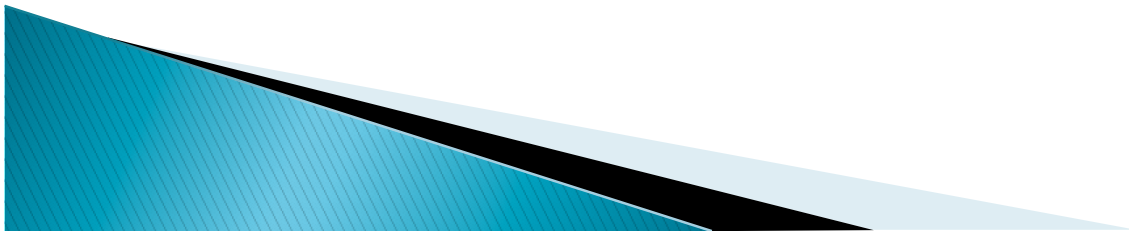
Examples of Biofuels	Non-examples
Corn	Hydrogen
Wood	Electric
Vegetable Oil	Nuclear Fuel



## 10. Air Pollution Control Act of 1955 And Clean Air Act of 1962?

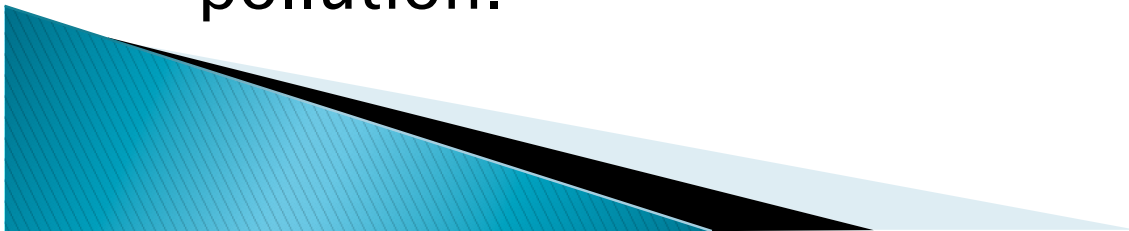
Air Pollution Control Act of 1955 when people realized that air quality was dirty and causing health problems.

Clean Air Act in 1962 was when the **first law** designed to reduce air pollution.



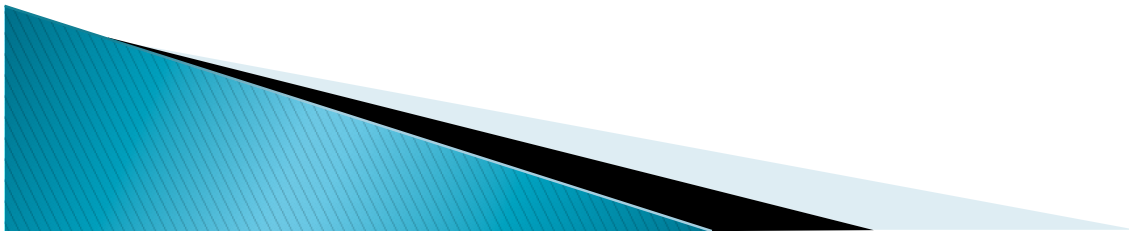
# 11. Experts

- ▶ Economists: Were interested in how much it would cost to put pollution-control measures into effect.
- ▶ Politicians: Enact laws and government agencies write regulations (rules) that tell manufacturers what they have to do to create better air quality.
- ▶ Public Policy Experts: make recommendations on the most cost effective methods for reducing air pollution.



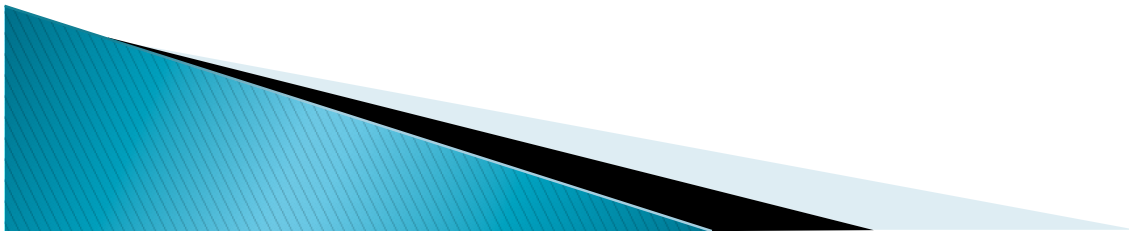
## 12. How and why has L.A. improved Air Quality?

- ▶ Law were passed to help eliminate pollutants in the air which would help to decrease smog and ozone problems.
- ▶ Baghouses, Catalytic converters, no Backyard burning, cars and trucks were checked yearly, burning of cleaner diesel fuel and unnecessary Idling for trucks and buses all helped to increase air quality in L.A.



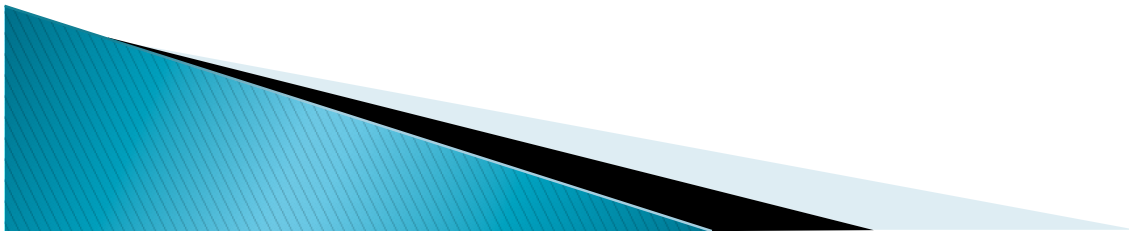
# 13. How and why has the Air Quality in the Adirondacks improved?

- ▶ Legislation, technology and using alternative fuels has helped the Andirondacks to improve their air quality.
- ▶ Clean Air Acts help to reduce the amount of pollutants put into the air. Electrostatic precipitators, scrubbers and burning low-sulfur coal helps to reduce the amount of pollutants in the air.



## 14. List and explain the three ways you can physically separate pollutants out of air?

- ▶ **1. Using Electricity** to remove PM: Electrical charges are put on pollutants and the opposite charge in the smokestack which removes PM.
- ▶ **Mechanical Filters:** Remove PM from harmful gases.
- ▶ **Using Water:** Wet scrubbers use water and limes (base) to neutralize pollutants so that they are not released into the air.





# 15. Benefits to Florescent Bulbs

- ▶ Use only. 25% of electricity.
- ▶ Last ten times longer.
- ▶ Reduces the amount of CO<sub>2</sub> by 1300 lbs over the lifetime of one bulb.

